

REMARKS

1. This Response is submitted in reply to the final Office Action mailed on August 28, 2007 and Advisory Action mailed February 12, 2008. A Request for Continued Examination is submitted herewith. Claims 1 to 24 are pending. Claims 1 to 24 stand rejected. Please charge Deposit Account No. 02-1818 for any fees which are due and owing. If such a withdrawal is made, please indicate the Attorney Docket No. 112713-1494 on the account statement.

In the Advisory Action, the Examiner asserts that the Information Disclosure Statement previously filed fails to comply with the provisions of 37 CFR 1.97 and 1.98 and M.P.E.P. § 609. Applicants are re-submitting the Information Disclosure Statement, along with Forms 1449, with the Request for Continued Examination. Since the Information Disclosure Statement has been placed in the application file, the references are not resubmitted. Accordingly, Applicants respectfully submits that the present Information Disclosure Statement complies with the provisions of 37 CFR 1.97 and 1.98 and M.P.E.P. § 609.

In the final Office Action, Claims 1 to 9, 16 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Application Publication No. 2003/0143352 A1 to Yang et al. ("*Yang*") in view of U.S. Patent No. 5,674,333 to Spencer ("*Spencer*"). Claims 10 to 15 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Yang* and *Spencer* in view of U.S. Patent No. 4,832,773 to Shaposka et al. ("*Shaposka*"). In response, Applicants have amended Claim 1. The amendment does not add new matter and is supported in the specification at pages 11 to 12, [0036], page 13, [0040] and pages 14 to 15, [0042].

2. Independent Claim 1 recites a method of connecting together two sections of tubing comprising the steps of directing an electromagnetic beam generally toward the location where the axially facing surfaces are in opposed, end-to-end relation for welding the two sections of tubing together at the location, wherein the electromagnetic beam does not directly contact the tubing sections [emphasis added]. Applicants respectfully submit that the cited references, even if combinable, fail to disclose or suggest every element of the amended Claim 1.

For example, *Yang* fails to disclose or suggest directing an electromagnetic beam generally toward a location where the axially facing surfaces are in opposed, end-to-end relation for welding two sections of tubing together at the location, wherein the electromagnetic beam does not directly contact the tube sections. By contrast, *Yang* merely teaches splitting a laser in two and directing each laser to a respective end of a tube. Specifically, *Yang* states:

After each tube end 51 is loaded into its respective tube holder 70, 72, the laser unit 200 is activated and energy diverges from the laser source. The collimator 204 refocuses the diverging energy toward the prism lens 206. As the energy/light strikes the reflective prism 206 it reflects into two bundles of energy. In this embodiment, the prism lenses 210, 212 re-direct each bundle of energy at approximately a 90° angle to focus the energy around the tube ends 51. More particularly, a "spot" of energy strikes the tube ends 51 and preferably, slightly exceeds the diameter B of the tube 50 to ensure the tube is covered with adequate radiant energy. [emphasis added]

See *Yang*, [0068]. The present claims, unlike *Yang*, specifically recite that the electromagnetic beam does not directly contact the tube sections. In fact, the Advisory Action admits *Yang* teaches directing the laser onto the tube ends. See Advisory Action, page 2, lines 7-8 and 12-13.

Applicants respectfully submit that *Spencer* fails to remedy the deficiencies of *Yang*. For example, *Spencer* fails to disclose or suggest directing an electromagnetic beam generally toward the location where the axially facing surfaces are in opposed, end-to-end relation wherein the electromagnetic beam does not directly contact the tube sections. Instead, *Spencer* teaches direct heating of the tubes using a heat knife or heated wafer that passes through and between aligned tubes to sever the tubes and then from a subsequent weld while the tube ends are in a molten state. See *Spencer*, Abstract, Fig. 5 and column 3, lines 12 to 30. *Spencer* teaches a technique in which the tubing is bent over on itself. Thus, using this techniques to prevent exposure to the environment would prevent one from meeting the required "end-to-end relation" of the tubing sections in Claim 1. The combination of *Yang* and *Spencer* thus fails to disclose or suggest every element of independent Claim 1 and Claims 2-9 and 16-17, that depend from Claim 1.

Applicants respectfully submit that Claims 10 to 15 and 23 are allowable because Claim 1 is allowable. The Patent Office relies on *Shaposka* arguably to disclose elements of claims dependent on Claim 1. Therefore, *Shaposka* inherently fails to remedy the deficiencies of *Yang* and *Spencer* established above.

Claims 18 to 20, 22 and 24 are also allowable

In the Office Action, Claims 18 to 20, 22 and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,345,070 to Hlavinka et al. ("*Hlavinka*") in view of U.S. Patent No. 5,501,759 to Froman ("*Froman*"). Claim 21 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Hlavinka* in view of *Froman* and further in view of U.S. Patent Application Publication No. 2003/0226631 to Sterud et al. ("*Sterud*"). Independent Claim 18 recites, in relevant part, a method of sealing a section of tubing comprising clamping at least a portion of the tubing section such that a collapsed portion of the tubing section extends past the clamped portion; directing a beam of electromagnetic energy onto the energy absorption member, the energy absorption member being constructed for absorbing energy from the beam; and transferring heat from the energy absorption member to the collapsed tubing section portion by contact therewith. Applicants respectfully submit that, even if combinable, the combination of *Hlavinka* in view of *Froman* fails to disclose every element of the present claims.

Hlavinka fails to disclose or suggest directing a beam of electromagnetic energy onto the energy absorption member as required by Claim 18. Rather, RF energy applied to the upper and lower jaws 22 and 24 establishes an electric field. That field produces heat that transfers only to the tube 10 itself. See, *Hlavinka*, column 5, lines 14 to 40. Sleeve 12, on the other hand, is transparent to the RF electric field, meaning that sleeve 12 is not heated dielectrically as is the case with the tubing. See, *Hlavinka*, column 4, lines 15 to 18. Instead, sleeve 12 only serves as a thermal insulator to insulate tubing 10 once the tubing is heated dielectrically by the radio frequency electric field. See, *Hlavinka*, column 5, lines 32-35.

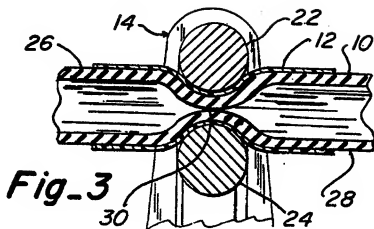
Since the sleeve of *Hlavinka* is transparent to RF energy, it also fails to transfer heat from the energy absorption member to the collapsed tubing section as provided in Claim 18. In *Hlavinka*, the insulating sleeve 12 prevents heat from flowing away from the FR-heated tubing. *Hlavinka* states: "With the tubular insulating sleeve 12 in place, however, sufficient heat is retained in the thermoplastic material of the medical tube 10 so that further melting occurs at the sealing location 30 as the jaws 22 and 24 are moved toward each other." See, *Hlavinka*, column 5, lines 32 to 36. *Hlavinka* also asserts that without the sleeve 12, heat would move back from the plastic tube to the jaws. See, *Hlavinka*, column 5, lines 25 to 30. Therefore, as stated

previously, the tubular insulating sleeve 12 only functions to retain heat. It does not function to convert energy to heat and transfer that heat to the tube.

In response, the Examiner asserts that the claim language only requires transferring heat from the energy absorption member to the collapsed tubing section portion by contact herewith. See, Advisory Action, page 2. Examiner also asserts that by retaining heat during the welding process, the insulating sleeve meets the claim limitations. Applicants respectfully submit, however, that the insulating sleeve does not meet all the claim limitations of the energy absorption member of Claim 18 because it is transparent to RF energy and does not absorb a directed beam of RF energy.

As recited by Claim 18, the energy absorption member must meet the following requirements: (a) it must contact the collapsed portion of the tubing section, (b) it must receive and absorb a directed beam of electromagnetic energy and (c) it must transfer heat to the collapsed tubing section portion by contact therewith. Insulating sleeve 12 in *Hlavinka* simply does not meet all these requirements. While sleeve 12 is in contact with tubing 10, sleeve 12 still does not receive and absorb a directed beam of electromagnetic energy as stated in (b) above. Instead, as argued previously, jaws 22 and 24 receive this beam. See, *Hlavinka*, column 5, lines 14 to 40. Therefore, sleeve 12 still fails to disclose or suggest each requirement of the energy absorption member of Claim 18 because it is transparent to RF energy and does not absorb a directed beam of RF energy.

On the other hand, if the Examiner argues that jaws 22 and 24 met all the limitations of the energy absorption member of Claim 18, *Hlavinka* would still be deficient. While the jaws 22 and 24 arguably may receive and absorb the beam of electromagnetic energy, the jaws do not contact the tubing. Therefore, jaws 22 and 24 do not meet requirements (a) and (c) described above. In fact, Figs. 1-6 (Fig. 3 shown below) clearly illustrate insulating sleeve 12 always separating tube 10 from jaws 22 and 24. Therefore, even if the Examiner argues that jaws 22 and 24 met all the limitations of the energy absorption member of Claim 18, *Hlavinka* would still fail to disclose or suggest each requirement of the energy absorption member of Claim 18.




Froman is cited to teach a collapsed portion of the tubing section extending past the clamped portion and does not cure the deficiencies of *Hlavinka*. Therefore, the combination of *Hlavinka* and *Froman* fail to disclose or suggest every element of independent Claim 18 and, as a result, Claims 19, 20, 22 and 24 that depend on Claim 18.

Regarding the obviousness rejection of Claim 21, Applicants respectfully submit that the patentability of independent Claim 18 in view of *Hlavinka* and *Froman*, established above, renders moot this obviousness rejection. The Patent Office relies on *Sterud* arguably to disclose elements of claims dependent on Claim 18. Therefore, *Sterud* inherently fails to remedy the deficiencies of *Hlavinka* and *Froman* established above.

3. Accordingly, Applicants respectfully request that the obviousness rejections of Claims 1-24 in view of the cited references above be withdrawn. For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

BELL, BOYD & LLOYD LLP

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Dated: February 27, 2008

David W. Okey
Reg. No. 42,959
312-807-4282
Customer No. 29200